

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A method for the provision of telecommunications services in an environment in which there are a plurality of systems working according to different standards and reachable from a terminal in an integrated way, at least one of the telecommunications services being provided by several systems of the plurality, the method, with regard to the request of provision of the at least one telecommunication service, comprising the steps of:

verifying the availability for the provision of the requested telecommunication service of at least a first and a second system of the plurality, the first telecommunication system forming with respect to the second telecommunication system a resource to be exploited in a preferential way, and

exploiting the resource in the preferential way by selecting, in an automatic and dynamic way, at least one of the first and the second system of the plurality for the provisioning of the requested telecommunication service by subdividing the telecommunication services into

a first set of telecommunication services to be substantially provided through the second telecommunication system, wherein the first set of telecommunication services comprises services of a conversational class, and

a second set of telecommunication services to be provided through the first telecommunication system and the second telecommunication system,

responsive to a request for a provision of a telecommunication service of the first set, verifying the availability of the second telecommunication system for providing the telecommunication service of the first set, supplying or not supplying, respectively, the telecommunication service of the first set through the second telecommunication system, depending on whether the second telecommunication system is available,

responsive to a request for a provision of a telecommunication service of the second set, verifying the availability of the first telecommunication system for providing the telecommunication service of the second set, and providing the telecommunication service of the

second set through the first telecommunication system when the first telecommunication system is available, and

when the first telecommunication system is unavailable for transmission of the telecommunication service of the second set, verifying the availability of the second telecommunication system to provide the telecommunication service of the second set and providing or not providing the telecommunication service of the second set, as requested, depending on whether the second telecommunication system is available for provision of the telecommunication service of the second set,

wherein the first telecommunication system is not configured to satisfy the initial Quality of Service (QoS) levels of the first set of telecommunication services,

wherein the second telecommunication system is configured to satisfy the initial QoS levels of the first set of telecommunication services,

wherein the first telecommunication system is configured to transmit more bits per second as compared to the second telecommunication system, and

detecting the availability of the second telecommunication system by defining a load parameter of the second telecommunication system and by considering the second telecommunication system as unavailable when the load parameter reaches a threshold value, wherein the load parameter is based on uplink load as a function of an interference contribution, signal to noise ratio, and a service activity factor.

2. (canceled)

3. (previously presented) The method as recited in claim 1 wherein the selecting step is carried out so as to find, within the first set, a subset of telecommunication services that is available to be provided in at least a condition of modified communication resources, the presence of a provision request for a telecommunication service of the subset including the steps of:

verifying the unavailability of the second telecommunication system for the provision of the telecommunication service of the subset as requested and,

once the unavailability has been verified, re-negotiating the provision request whereby the telecommunication service of the subset is again requested for the provision in a condition of modified communication resources.

4. (previously presented) The method as recited in claim 3 wherein the selecting step is carried out so as to lead, within the second set, to a respective subset of telecommunication services that are deliverable in at least one condition of modified communication resources, and, when there is a provision request for a telecommunication service of the respective subset, the selecting step comprises the steps of:

verifying the unavailability of at least one between the first and the second system for the provision of the telecommunication service of the respective subset as requested and,

after verifying the unavailability, re-negotiating the provision request, the provision of the telecommunication service of the respective subset being requested again in a condition of modified communication resources.

5. (previously presented) The method as recited in claim 4 wherein the selecting step is carried out so as to be able to lead, within at least one between the set and the respective subset, to telecommunication services that are available to be provided under a plurality of conditions of modified communication resources, the method further comprising the step of:

repeatedly re-negotiating the request for service provision under subsequently modified communication resources.

6. (currently amended) The method as recited in claim 1 wherein the ~~selecting step comprises the step of subdividing the telecommunication services into a first set comprising services of conversational class and a second set comprising~~comprises services included in at least one class among the classes of streaming services, interactive services, and background services.

7. (previously presented) The method as recited in claim 4 wherein the second set includes streaming class services.

8. (previously presented) The method as recited in claim 1 wherein the selecting step is carried out by selecting the systems in the group formed by the mobile communication systems.

9. (previously presented) The method as recited in claim 8 wherein the selecting step is carried out by selecting the systems in the group formed by UMTS, WLAN and 802.11 systems.

10. (previously presented) The method as recited in claim 1, further comprising the step of:
verifying the availability of the first telecommunication system on the basis of a criterion of admission control of the users by detecting the performance degradation of the first telecommunication system as the number of users increases.

11. (previously presented) The method as recited in claim 10, further comprising the steps of:
detecting the total bit rate available to the active users on the first telecommunication system, and
considering the first telecommunication system as unavailable for a new user when the bit rate available upon the possible admission of the new user reaches a threshold value.

12-13. (canceled)

14. (currently amended) A system for providing telecommunications services in an environment wherein a plurality of telecommunications systems are provided that operate according to different standards and that are configured to be accessed from a terminal in an integrated manner, at least one of the telecommunication services being deliverable by more than one of the telecommunications systems of the plurality, the system being configured, when there is a provision request for the at least one telecommunication service, to cooperate with the plurality of telecommunications systems and comprising:

a processor; and

a memory having stored thereon instructions that, when executed by the processor, perform:

verifying the availability for the provision of the telecommunication service requested, of at least a first and a second system of the plurality of telecommunications systems, and

selecting, in an automatic and dynamic way, between the first and the second system of the plurality for the provision of the telecommunication service requested, the first system forming with respect the second system a resource to be exploited preferentially, the selecting including

a) subdividing the telecommunication services into

a first set of telecommunication services to be substantially provided through the second telecommunication system, wherein the first set of telecommunication services comprises services of a conversational class, and

a second set of telecommunication services to be provided through the first telecommunication system and the second telecommunication system,

b) verifying the availability of the second telecommunication system for providing the telecommunication service of the first set as requested, supplying or not supplying respectively the telecommunication service of the first set through the second telecommunication system, depending on whether the second telecommunication system is available,

c) when a request for provision of a telecommunication service of the second set is received,

cl) verifying the availability of the first telecommunication system in order to provide the telecommunication service of the second set and providing the telecommunication service of the second set through the first telecommunication system when the first telecommunication system is available,

c2) when the first telecommunication system is unavailable for transmission of the telecommunication service of the second set, verifying the availability of the second telecommunication system to provide the telecommunication service of the second set and providing or not providing the telecommunication service of the second set depending on whether the second telecommunication system is available for provision of the telecommunication service of the second set,

wherein the first telecommunication system is not configured to satisfy the initial Quality of Service (QoS) levels of the first set of telecommunication services,

wherein the second telecommunication system is configured to satisfy the initial QoS levels of the first set of telecommunication services,

wherein the first telecommunication system is configured to transmit more bits per second as compared to the second telecommunication system, and

detecting the availability of the second telecommunication system by defining a load parameter of the second telecommunication system and by considering the second telecommunication system as unavailable when the load parameter reaches a threshold value, wherein the load parameter is based on uplink load as a function of an interference contribution, signal to noise ratio, and a service activity factor.

15-16. (canceled)

17. (previously presented) The system as recited in claim 14 wherein the instructions, when executed by the processor, further perform:

determining the presence, within the first set, of a subset of telecommunication services deliverable in at least a condition of reduced communication resources, and,

when receiving a provision request of a telecommunication service of the subset, verifying the unavailability of the second telecommunication system for the provision of the telecommunication service of the subset as requested, and, once the unavailability has been verified, re-negotiating the provision request, the telecommunication service of the subset being requested again for the provision in a condition of reduced communication resources.

18. (previously presented) The system as recited in claim 14, wherein the instructions, when executed by the processor, further perform:

determining, within the second set of telecommunication services, a respective subset of telecommunication services configured to be provided in at least a condition of reduced communication resources, and

when receiving a provision request for a telecommunication service of the respective subset, verifying the unavailability of at least one between the first and second system for the provision of the telecommunication service of the respective subset as requested and, once the unavailability has been verified, re-negotiating the provision request such that provision of the telecommunication service of the respective subset is requested again in a condition of reduced communication resources.

19. (previously presented) The system as recited in claim 18, wherein the instructions, when executed by the processor, further perform:

providing at least one of the set and the respective subset of telecommunication services in a plurality of conditions of modified communication resources, and

repeatedly re-negotiating the request for telecommunication service provision under conditions of subsequently modified communication resources.

20. (currently amended) The system as recited in claim 14, wherein the ~~selecting step comprises subdividing the telecommunication services such that the first set comprises telecommunication services of conversational class and the second set of telecommunication services comprises~~ telecommunication services included in at least one class among the classes of the streaming services, interactive services, and background services.

21. (previously presented) The system as recited in claim 18, wherein the services of the second set are services of a streaming class.

22. (previously presented) The system as recited in claim 14, wherein the system is configured to co-operate with mobile communication systems, including the telecommunications systems of the plurality.

23. (previously presented) The system as recited in claim 22, wherein the system is configured to co-operate with telecommunications systems included in the group formed by UMTS, WLAN and 802.11 systems.

24. (canceled)

25. (previously presented) The system as recited in claim 14, wherein the step of verifying the availability of the first telecommunication system comprises verifying the availability of the first telecommunication system on the basis of a criterion of admission control of users thereof by detecting performance degradation of the first telecommunication system as the number of users increases.

26. (previously presented) The system as recited in claim 25, wherein the instructions, when executed by the processor, further perform:

detecting a total bit rate available to users active on the first telecommunication system,
and

considering the first telecommunication system unavailable for a new user when the bit rate available following the possible admission of the new user reaches a threshold value.

27-28. (canceled)

29. (currently amended) A non-transitory computer-readable medium having stored thereon instructions that, when executed, perform:

verifying the availability for the provision of a requested telecommunication service of at least a first and a second system of a plurality of telecommunication systems, the first telecommunication system forming with respect to the second telecommunication system a resource to be exploited in a preferential way, and

exploiting the resource in the preferential way by selecting, in an automatic and dynamic way, at least one between the first and the second system of the plurality for the provision of the requested telecommunication service by subdividing the telecommunication services into

a first set of telecommunication services to be substantially provided through the second telecommunication system, wherein the first set of telecommunication services comprises services of a conversational class, and

a second set of telecommunication services to be provided through the first telecommunication system and the second telecommunication system,

responsive to a request for provision of a telecommunication service from the first set, verifying the availability of the second telecommunication system for providing the telecommunication service of the first set, supplying and not supplying respectively the telecommunication service of the first set through the second telecommunication system, depending on whether or not the second telecommunication system is available,

responsive to a request for provision of a telecommunication service of the second set,

verifying the availability of the first telecommunication system in order to provide the telecommunication service of the second set and providing the telecommunication service of the second set through the first telecommunication system when the first telecommunication system is available,

when the first telecommunication system is unavailable for transmission of the telecommunication service of the second set, verifying the availability of the second telecommunication system to provide the telecommunication service of the second set and providing or not providing the telecommunication service of the second set depending on whether the second telecommunication system is available for provision of the telecommunication service of the second set, as requested,

wherein the first telecommunication system is not configured to satisfy the initial Quality of Service (QoS) levels of the first set of telecommunication services,

wherein the second telecommunication system is configured to satisfy the initial QoS levels of the first set of telecommunication services,

wherein the first telecommunication system is configured to transmit more bits per second as compared to the second telecommunication system, and

detecting the availability of the second telecommunication system by defining a load parameter of the second telecommunication system and by considering the second telecommunication system as unavailable when the load parameter reaches a threshold value, wherein the load parameter is based on uplink load as a function of an interference contribution, signal to noise ratio, and a service activity factor.

30. (previously presented) The method as recited in claim 1, wherein the load parameter is further based on a load associated with a downlink connection and the availability of spreading codes.

31. (previously presented) The system as recited in claim 14, wherein the load parameter is further based on a load associated with a downlink connection and the availability of spreading codes.

32. (previously presented) The non-transitory computer-readable medium recited in claim 29, wherein the load parameter is further based on a load associated with a downlink connection and the availability of spreading codes.